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IRON DEFICIENCY IN ADULT CYANOTIC CONGENITAL HEART DISEASE

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
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Session Title: Adult Congenital Heart Disease
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Background: We sought to investigate the significance of depleted iron stores in adult cyanotic congenital heart disease.

Method: In a six-month period, we investigated 69 congenital heart disease patients> 15 years old with O2 saturation< 90% by pulse oxymetry for hyperviscosity symptoms and laboratory findings, including complete blood count with differential and ferritin level. According to the severity of their symptoms, we divided the patients into four groups: Asymptomatic, Mild, Moderate, and Severe.

Results: A high percentage (75%) of the patients presented with decreased iron stores (ferritin≤ 40ng/dl) and 59% presented with severe depleted iron stores (ferritin≤ 20ng/dl). The ferritin level was not associated with the hemoglobin level, O2 saturation, and hyperviscosity syndrome but it was clinically important in hyperviscosity syndrome. Accordingly, the symptoms of hyperviscosity increase as ferritin levels decrease. We found ferritin levels> 40ng/dl with no hyperviscosity symptoms; it was, however, of no statistical significance.

Despite elevated levels of hemoglobin in these hypoxic patients, there was no correlation between O2 saturation and erythrocytosis. Most of the patients had some degrees of hyperviscosity symptoms, but erythrocytosis was not associated with hyperviscosity symptoms in our study.

Conclusion: Iron deficiency should be deemed an important factor in adult cyanotic congenital heart disease as 3/4 of our patients had ferritin levels< 40ng/dl and more than half were severely iron deficient (< 20ng/dl). Furthermore, iron deficiency disrupted the normal linear relationship between O2 saturation and hemoglobin levels in our cyanotic patients. Ferritin levels > 40ng/dl are needed to have the fewest symptoms of hyperviscosity regardless of the level of erythrocytosis.